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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,077	12/19/2005	Tae-Hwan Kim	PNK0204US	4215
23413 7590 04/09/2009 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER				
CALEY, MICHAEL H				
ART UNIT		PAPER NUMBER		
2871				
NOTIFICATION DATE		DELIVERY MODE		
04/09/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

# Office Action Summary

## Application No.

10/510,077

## Applicant(s)

KIM ET AL.

## Examiner

Michael H. Caley

## Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date 1/8/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1 and 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 1, lines 13-14 recite “the first and the second hybrid c-plate compensation films inserted between the first a-plate film and the first polarizer and between the second a-plate film and the second polarizer” (emphasis added). The wording of the limitation presents a contradiction as the hybrid c-plate compensation films cannot be present in both places simultaneously. For examination on the merits, the examiner assumes the claim language to intend “the first and the second hybrid c-plate compensation films inserted between the first a-plate film and the first polarizer or between the second a-plate film and the second polarizer.

Furthermore, in claim 1, lines 9-10 describe a broad placement of the first hybrid c-plate compensation film. Lines 13-14 describe a more narrow placement of the first hybrid c-plate film.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex*

*parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 lines 9-10 recites the broad recitation of the first hybrid c-plate placement, and the claim also recites in lines 13-14 a second placement which is the narrower statement of the range/limitation.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(e) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winker et al. (U.S. Patent No. 5,504,603 “Winker”) in view of Arakawa (U.S. Patent No. 6,812,983) and evidenced by Yaroschuk et al. (U.S. Patent No. 6,822,713 “Yaroschuk”).**

Regarding claim 1, Winker discloses a liquid crystal display comprising:

a liquid crystal display panel assembly including two panels (Figure 2 elements 238 and 240) and a liquid crystal layer (Figure 2 element 226) interposed between the panels and having first and second outer surfaces opposite each other;

first and second polarizers (Figure 2 elements 222 and 224) on the first and the second surfaces of the panel assembly, respectively;

a first a-plate compensation film (Figure 8; Table I on columns 9-10) inserted between the first polarizer and the first surface of the panel assembly; and

a first hybrid c-plate compensation film (Columns 9-10 Table I, c-plate in combination with o-plate) inserted between the second surface of the panel assembly and the second polarizer or between the first a-plate compensation film and the first polarizer (Figure 8);

a second a-plate film inserted between the second polarizer and the second surface of the panel assembly and a second hybrid c-plate compensation film, the first and the second hybrid c-plate compensation films inserted between the first a-plate film and the first polarizer and between the second a-plate film and the second polarizer (Table I on columns 9-10, specifically the embodiment of Column 9 lines 66).

Further, Winker discloses the a-plate as uniaxial ( $n_y = n_z$ ; Column 8 line 13) and thereby satisfies the proposed condition. Yaroschuk is provided as further evidence that an a-plate is defined as having equivalent refractive indexes  $n_y = n_z$ .

Winker fails to disclose the a-plate compensation films as having a reverse wavelength dispersion. Arakawa, however, teaches a reverse wavelength dispersion compensation film (Column 2 lines 38-43) as advantageous to produce a uniform retardation and as constructed using a simple process (Column 1 line 58 - Column 2 line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the a-plate compensation film in the display device disclosed by Winker to have a reverse wavelength dispersion characteristic. One would have been motivated to form the compensation film to have a reverse-wavelength characteristic to produce a more uniform retardation and to be able to construct the film using a simple process according to the teachings of Arakawa (Column 1 line 58 - Column 2 line 3).

Regarding claim 8, Winker discloses the liquid crystal layer as having a twisted nematic configuration in which liquid crystal molecules in the liquid crystal layer are aligned parallel to the panels and spirally twisted from one of the panels to the other (Winker: Figure 2 element 226; Column 3 lines 1-4).

Regarding claim 10, Winker discloses the liquid crystal panel as having a vertically aligned configuration in which liquid crystal molecules in the liquid crystal layer are aligned perpendicular to the panels (Figure 2 between elements 212 and 214).

### ***Response to Arguments***

Regarding the rejection of claim 1, Applicant argues that Winker and Arakawa do not disclose the first a-plate film with reverse wavelength dispersion as claimed.

On Page 8, Applicant argues that Winker discloses an a-plate compensation film having forward wavelength dispersion, however, provides no evidence to support such a statement.

The examiner maintains that the combination of Winker and Arakawa teach the limitations of claim 1 as proposed, specifically the first a-plate film with reverse wavelength dispersion. Winker discloses a first a-plate film (a type of retardation plate) without noting the type of wavelength dispersion. Arakawa teaches reverse wavelength dispersion by the expression  $\text{Re}(450) < \text{Re}(550) < \text{Re}(650)$  according to the definition given in Applicant's specification (Page 2 lines 10-13). Arakawa teaches benefits of imparting a reverse wavelength dispersion to a retardation plate (such as the a-plate film of Winker) of providing a more uniform retardation characteristic and simpler construction process. Therefore, given the disclosures of Winker and Arakawa, it would have been obvious to one of ordinary skill in the art to implement the a-plate films disclosed by Winker to have a reverse wavelength dispersion characteristic.

Regarding the condition and inequality of claim 1, it is established that an a-plate refers to a uniaxial film, that is, the film has refractive indexes that are equal to one another (i.e.  $n_x = n_z$ ). As further evidence, Kashima is submitted (U.S. Patent No. 7,324,180), column 3 lines 24-

28, that by definition, an a-plate refers to a film having  $n_y = n_z$  and therefore satisfies the proposed inequality.

Regarding the rejections of claims 7, 9, and 11, arguments are persuasive. The prior art rejections of claims 7, 9, and 11 are withdrawn.

#### ***Allowable Subject Matter***

Claims 7, 9, and 11 would be allowable if rewritten to overcome the 35 U.S.C. 112, second paragraph rejection and in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571)272-2286. The examiner can normally be reached on M-F 6:00 a.m - 2:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael H. Caley/  
Primary Examiner, Art Unit 2871